

In the Claims

1-23 (canceled).

- 24 (new). A composition of matter comprising:
- a) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
 - b) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
 - c) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising the murine immunoglobulin signal peptide (IgSP) of SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide;
 - d) a DNA construct comprising a sequence encoding a fusion protein, said fusion protein comprising an IgSP-tPA pre-propeptide fused to a polypeptide of interest and said IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
 - e) a DNA construct comprising a sequence encoding a human tissue-type plasminogen activator propeptide (tPA) wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg;
 - f) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
 - g) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;

- h) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising the murine immunoglobulin signal peptide (IgSP) of SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide;
- i) a vector comprising a DNA construct comprising a sequence encoding a fusion protein, said fusion protein comprising an IgSP-tPA pre-propeptide fused to a polypeptide of interest and said IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
- j) a vector comprising a DNA construct comprising a sequence encoding a human tissue-type plasminogen activator propeptide (tPA) wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg; or
- k) a host cell transformed with the DNA construct or vector comprising:
 - 1) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
 - 2) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
 - 3) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising the murine immunoglobulin signal peptide (IgSP) of SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide;
 - 4) a DNA construct comprising a sequence encoding a fusion protein, said fusion protein comprising an IgSP-tPA pre-propeptide fused to a polypeptide of interest and said IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;

- 5) a DNA construct comprising a sequence encoding a human tissue-type plasminogen activator propeptide (tPA) wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg;
- 6) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
- 7) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
- 8) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising the murine immunoglobulin signal peptide (IgSP) of SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide;
- 9) a vector comprising a DNA construct comprising a sequence encoding a fusion protein, said fusion protein comprising an IgSP-tPA pre-propeptide fused to a polypeptide of interest and said IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
or
- 10) a vector comprising a DNA construct comprising a sequence encoding a human tissue-type plasminogen activator propeptide (tPA) wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg.

25 (new). The composition of matter according to claim 24, wherein the tPA propeptide encoded by said DNA construct is a human tPA propeptide, the carboxyl-terminal extremity of said tPA propeptide consisting of amino acids Arg-Xaa-Arg-Arg.

26 (new). The composition of matter according to claim 25, wherein said tPA propeptide consists of amino acids 23 to 32 of SEQ ID NO: 2.

27 (new). The composition of matter according to claim 24, wherein the pre-propeptide encoded by said genetic construct comprises SEQ ID NO: 1.

28 (new). The composition of matter according to claim 25, wherein the pre-propeptide encoded by said genetic construct comprises SEQ ID NO: 1.

29 (new). The composition of matter according to claim 26, wherein the pre-propeptide encoded by said genetic construct comprises SEQ ID NO: 1.

30 (new). The composition of matter according to claim 24, wherein said vector is an expression vector.

31 (new). The composition of matter according to claim 24, wherein said vector is a vector for performing gene activation.

32 (new). The composition of matter according to claim 24, wherein the host cell comprises a DNA construct encoding human tPA propeptide, the carboxyl-terminal extremity of said tPA propeptide consisting of amino acids Arg-Xaa-Arg-Arg.

33 (new). The composition of matter according to claim 24, wherein the host cell comprises a DNA construct encoding a tPA propeptide consisting of amino acids 23 to 32 of SEQ ID NO: 2.

34 (new). The composition of matter according to claim 24, wherein the host cell comprises a DNA construct and the pre-propeptide encoded by said DNA construct comprises SEQ ID NO: 1.

35 (new). The composition of matter according to claim 24, wherein said host cell is selected from the group consisting of a CHO cell, a COS cell, a CV1 cell, a mouse L cell, a HT1080 cell, a BHK cell, a HEK293 cell, a NIH-3T3 cell, a LM cell and a Y1 cell, NS0 and SP2/0 mouse hybridoma and the like, Namalwa, RPMI-8226, Vero, WI-38, and MRC-5.

36 (new). The composition of matter according to 35, wherein said cell is a CHO cell.

37 (new). A process for the production of a polypeptide of interest comprising the step of transfecting a host cell with a DNA construct or vector comprising:

- a) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
- b) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
- c) a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising the murine immunoglobulin signal peptide (IgSP) of SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide;
- d) a DNA construct comprising a sequence encoding a fusion protein, said fusion protein comprising an IgSP-tPA pre-propeptide fused to a polypeptide of interest and said IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;

- e) a DNA construct comprising a sequence encoding a human tissue-type plasminogen activator propeptide (tPA) wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg;
- f) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
- g) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
- h) a vector comprising a DNA construct comprising a sequence encoding an IgSP-tPA pre-propeptide comprising the murine immunoglobulin signal peptide (IgSP) of SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide;
- i) a vector comprising a DNA construct comprising a sequence encoding a fusion protein, said fusion protein comprising an IgSP-tPA pre-propeptide fused to a polypeptide of interest and said IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide; or
- j) a vector comprising a DNA construct comprising a sequence encoding a human tissue-type plasminogen activator propeptide (tPA) wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg;

to produce a polypeptide of interest.

38 (new). The process according to claim 37, further comprising the step of culturing the host cell.

39 (new). The process according to claim 37, further comprising the step of isolating the polypeptide of interest from said host cells.

40 (new). The process according to claim 37, wherein the transfection is stable transfection.

- 41 (new). A polypeptide comprising:
- a) an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide;
 - b) an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide fused to a tissue-type plasminogen activator (tPA) propeptide;
 - c) an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide comprising SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide;
 - d) an IgSP-tPA pre-propeptide comprising an immunoglobulin signal peptide (IgSP) fused to a tissue-type plasminogen activator (tPA) propeptide, wherein said tPA propeptide is a human tPA propeptide, the carboxyl-terminal extremity of said tPA propeptide consisting of amino acids Arg-Xaa-Arg-Arg;
 - e) an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide fused to a tissue-type plasminogen activator (tPA) propeptide, wherein said tPA propeptide is a human tPA propeptide, the carboxyl-terminal extremity of said tPA propeptide consisting of amino acids Arg-Xaa-Arg-Arg;
 - f) an IgSP-tPA pre-propeptide comprising a murine immunoglobulin signal peptide comprising SEQ ID NO: 3 fused to a tissue-type plasminogen activator (tPA) propeptide, wherein said tPA propeptide is a human tPA propeptide and the carboxyl-terminal extremity of said tPA propeptide consisting of amino acids Arg-Xaa-Arg-Arg;

- g) a human tissue-type plasminogen activator propeptide (tPA) wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg;
- h) a tPA propeptide consisting of amino acids 23 to 32 of SEQ ID NO: 2;
- i) a human tissue-type plasminogen activator propeptide (tPA), wherein the carboxyl-terminal extremity of said tPA propeptide consists of amino acids Arg-Xaa-Arg-Arg or a tPA propeptide consists of amino acids 23 to 32 of SEQ ID NO: 2, each further comprising a signal sequence fused to said tPA propeptide; or
- j) a polypeptide of interest fused to: 1) a human tissue-type plasminogen activator propeptide (tPA) with a carboxyl-terminal extremity consisting of amino acids Arg-Xaa-Arg-Arg fused to a signal sequence or 2) a tPA propeptide consisting of amino acids 23 to 32 of SEQ ID NO: 2 fused to a signal sequence.

42 (new). The polypeptide according to claim 41, wherein said tPA propeptide consists of amino acids 23 to 32 of SEQ ID NO: 2.

43 (new). The polypeptide according to claim 41, wherein said pre-propeptide comprises SEQ ID NO: 1.

44 (new). The polypeptide according to claim 41, wherein said IgSP-tPA pre-propeptide fused to a polypeptide of interest.